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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,005

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Antoine Gauriat

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EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1787

NOTIFICATION DATE

DELIVERY MODE

10/05/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/562,005	Applicant(s) GAURIAT ET AL.	
	Examiner KEVIN R. KRUER	Art Unit 1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/17/2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14 and 17-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims state the styrene maleic anhydride copolymer has a specified "weight average molar mass." In support of said amendment, applicant points to page 11, lines 1-12. Said section has been fully reviewed and the examiner cannot find any explicit teaching regarding "weight average molar mass." It is believed applicant is attempting to rely upon the "MW" disclosure to support said amendment. While M_w (subscript emphasized) is

commonly utilized in the art as shorthand for weight average molecular weight, MW (upper case W emphasized) is herein understood to refer to "molecular weight" since ME is typically used in the art to refer to molecular weight (e.g. US 3,621,034). Thus, the original disclosure does not contain support for the newly added "weight average molar mass" limitation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4-14, 17 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US 4,690,856) in view of Gervasi (US 5,939,512).

Ito teaches a laminate comprising two metal sheets adhered together with a polyamide composition (abstract). The composition may comprise 50-99.5wt% of a polyamide, and 0.5-50wt% of a modified polyolefin formed by grafting a polyolefin with an unsaturated compound including carboxylic acids and a derivative thereof such as maleic acid anhydride (col 3, lines 1+). The metal sheets may comprise aluminum (col 5, lines 25+) and may be different from one another. The polyamide is a nylon 6 (col 2, lines 23+). The olefin may be polyethylene or a non-linear ethylene (col 2, lines 51+). The laminate may further comprise a resin layer between two adhesive layers (col 5, lines 38+).

With regards to claim 14, polyamide is considered to be the continuous stage since it comprises the majority of the composition.

With regards to claim 19, Ito teaches additives may be included in the adhesive (col 5, lines 6+). Thus, it would have been obvious to the skilled artisan to add a fire retardant to the composition because such additives are commonly used in such adhesives in order to improve fire resistance.

With regards to claims 21-23, Ito teaches said method limitations (col 5, lines 60+).

Ito fails to teach the addition of a styrene maleic acid anhydride copolymer with a molecular weight of 1,400 to 10,000. However, Gervasi teaches the addition of a low molecular weight styrene maleic anhydride polymer to a nylon composition in order to improve its viscosity, shape retention properties (col 5, lines 47+). The trade names taught in Gervasi are known in the art to have molecular weights which meet the claimed limitations. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a styrene maleic anhydride polymer having the claimed molecular weight to the composition taught in Ito in order to improve the viscosity and shape retention of the final product.

With respect to claims 17 and 25, it would have been obvious to optimize the amount of styrene maleic anhydride that was added to the composition in order to optimize the composition's viscosity and shape retention characteristics.

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6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US 4,690,856) in view of Gervasi (US 5,939,512) as applied to claims 1, 2, 4-14 and 17-25, and further in view of applicant's admissions.

Ito teaches the metal sheets may be different but does not admit they may have different surface dimensions. However, Applicant admits laminates wherein the sheets have different surface dimensions are known in the art and called patchwork sheets (see page 4 of the specification). Thus, it would have been obvious to utilize sheets with different surface dimensions in the laminate taught in Ito. The motivation for doing so would have been so the sheet had utility as a patchwork sheet.

7. Claims 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US 4,690,856) in view of Gervasi (US 5,939,512) as applied above to claims 1,2, 4-17 and 19-24, and further in view of Ohmae et al (US 5,047,479).

Ito does not teach the adhesive should comprise an epoxy compound. However, Ohmae teaches a thermoplastic resin composition which is obtained from melt kneading 60-97 pbw polyamide, 3-40pbw ethylene copolymer comprising 40-90wt% ethylene and 5-60wt% unsaturated carboxylate unit, and 0.3-10wt% of maleic anhydride unit, and © 0.1-20pbw of a polyfunctional compound having at least two functional groups having reactivity to a carboxyl group, a carboxylic acid anhydride group or an amino group to effect partial crosslinking (abstract). Said polyfunctional compound may be a glycidyl bisphenol (col 4, lines 40+) and improves the heat resistance, impact resistance, and mechanical properties of the composition. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 0.1-20wt% glycidyl

bisphenol A to the composition taught in Ito. The motivation for doing so would have been to improve the heat resistance, impact resistance, and mechanical properties of the composition. Herein, the epoxy compound is understood to read on the claimed reactive compound.

Response to Argument

Applicant's arguments filed 9/17/2010 have been fully considered but are not persuasive. Specifically, applicant argues there is no motivation to combine the references as suggested by the examiner as Ito does not teach that the polyamide adhesive needs to be molded or shaped. Said argument is noted but is not persuasive as the viscosity control would still be important to Ito in order to improve the processability of the composition. Furthermore, shape retention at high temperatures would be desirable to prevent oozing of the adhesive at elevated temperatures.

Applicant further argues Gervasi teaches that a styrene maleic anhydride copolymer can be added to increase viscosity, whereas styrene maleic anhydride is added to the claimed invention in order to (1) decrease viscosity, (2) increase compatibility between polyamide and polyethylene and (3) enhance bonding of the adhesive polymer with the substrate.

With regards to (1) decreasing viscosity, the difference in teaching with regards to viscosity seems to be a difference in perspective more than a difference in function. Specifically, applicant teaches the styrene maleic anhydride reduces viscosity relative to a composition comprising crosslinked nylon/grafted polyethylene whereas Gervasi teaches the styrene maleic anhydride increases viscosity of a nylon (not reacted with

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grafted polyethylene). In both cases, the styrene maleic anhydride and functionalized polyolefin are taught to react with the polyamide (see '512; col 3, lines 47+). Thus, the mechanism/reaction taught by the prior art seems to be identical to applicant's desired mechanism/reaction.

With regards to increasing the compatibility, said result is not unexpected given (as applicant explains) the styrene maleic anhydride has a hydrophobic section which would be compatible with the polyolefin component and a hydrophilic section which would be compatible with the polyamide component. While Gervasi does not explicitly anticipate said benefit, said feature fails to distinguish the claimed invention from the proposed combination. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

With regards to increasing the bond strength of the adhesive layer with the substrate (3), maleic anhydride is known to be reactive to water molecules on the surface of metal substrates (see US 6,288,144-description of related art). Thus, said feature is not unexpected and fails to distinguish the claimed invention from the proposed combination. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant further argues the addition of the styrene maleic anhydrides allows for a practical and affordable way to produce a plastic core layer with a melting point above 210°C, mechanical stability at this temperature, and melting point not higher than 230°C. Said argument is noted but is moot since the argument is not commensurate in scope with the pending claims; said features are not claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN R. KRUER whose telephone number is (571)272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin R Krue/ Primary Examiner, Art Unit 1787